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SYNFACTS **Highlights in** **Chemical Synthesis**

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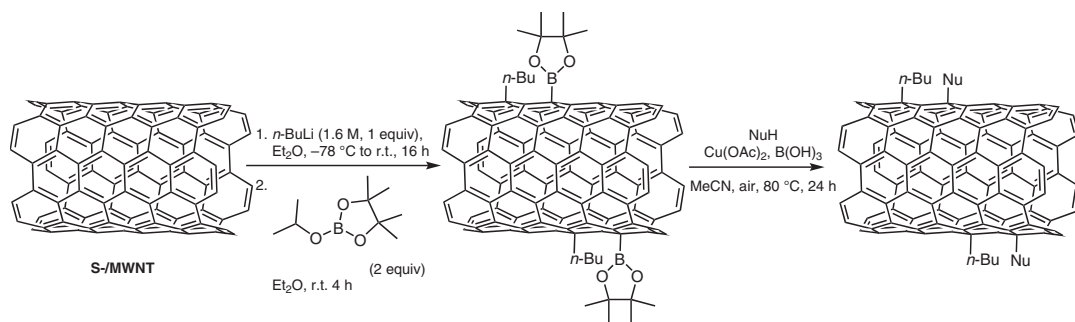
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Covalent Grafting of BPin Functions on Carbon Nanotubes and Chan–Lam–Evans Post-Functionalization

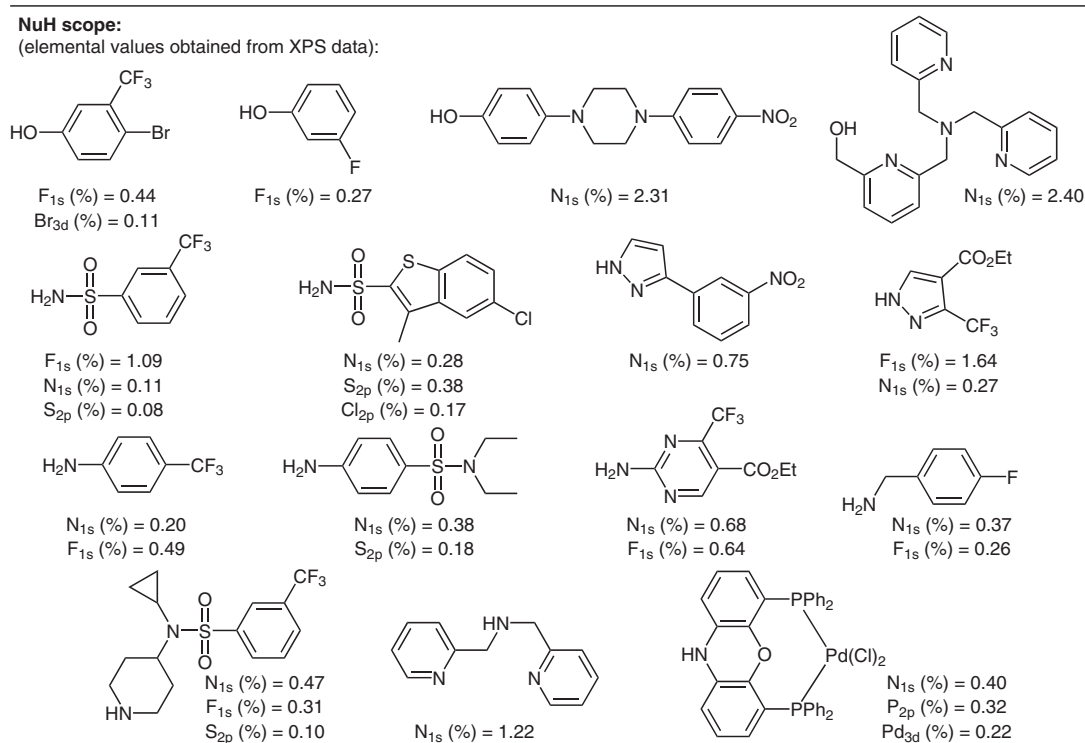
Chem. Eur. J. 2019, 25, 1436–1440.

Chan–Lam–Evans Coupling is Now Available on Carbon Nanotubes



NuH scope:

(elemental values obtained from XPS data):



Significance: Carbon nanotubes (CNTs) hold great potential in many fields including nanomedicine, heterogeneous catalysis and sensing. Side-wall covalent functionalization offers a facile method to modulate the electronic and chemical properties of CNTs, rendering derivatized nanomaterials tailored for specific applications. Hermans, Riant, and co-workers report a method to graft organoboron groups on the surface of CNTs that enable easy post-modifications with a wide range of nucleophiles by aerobic Chan–Lam–Evans coupling.

Comment: The covalent nature of the functionalization was evidenced by the significant increase in the defect (D) band relative to the graphitic (G) band in Raman spectroscopy. The grafting density was determined by thermogravimetric analysis (TGA) and X-ray photoelectron spectroscopy (XPS). The chemical structures of the immobilized functional groups were detected and identified by TGA-MS and time-of-flight secondary ions mass spectrometry (TOF-SIMS).

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